

ANNUAL CONSUMER REPORT



ON THE QUALITY OF TAP WATER 2002 U.S. ARMY GARRISON ABERDEEN PROVING GROUND EDGEWOOD AREA

YOUR DRINKING WATER IS SAFE TO DRINK

This is an annual report on the quality of water delivered to the Edgewood Area of U.S. Army Garrison, Aberdeen Proving Ground. Under the "Consumer Confidence Reporting Rule" of the Federal Safe Drinking Water Act (SDWA), community water systems are required to report this water quality information to the consuming public. Presented in this report is information on the source of our water, its constituents and the health risks associated with any contaminants detected in quantities exceeding a drinking water regulatory maximum contaminant level (MCL), action level (AL), or treatment techniques (TT). **During calendar year 2002, no contaminants were detected in the Edgewood Area drinking water distribution system in quantities exceeding regulatory limits.**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. (B) Inorganic contaminants, such as salts and metals, which can occur naturally or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. (C) Pesticides and herbicides, which may occur from a variety of sources such as agriculture, urban storm water runoff, and residential uses. (D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems. (E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of

contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

We continually monitor the drinking water for contaminants. Our water is safe to drink; however, some people may be more vulnerable to contaminants in drinking water than the general population. Immuno compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791.

The drinking water being delivered to you is pumped from Winters Run and treated by the Van Bibber Water Treatment Plant located at Building E-6110 on Route 755 (Edgewood Road), Edgewood, MD 21040. Winters Run is a surface water source in Harford County. Due to drought conditions during June – November 2002, APG could no longer withdrawal from Winter's Run. Therefore June – December 2002, the Edgewood Area received water from Harford County Sources. Harford County's water comes from surface and groundwater which includes the Gunpowder and Susquehanna Rivers and aquifers in the Pliocene and Cretaceous formations

MONITORING OF YOUR DRINKING WATER

Our water system uses only EPA-approved laboratory methods to analyze your drinking water. Our personnel collect water samples from the distribution system and from the Van Bibber Water Treatment Plant. Samples are then shipped to the accredited laboratory where a full spectrum of water quality analyses is performed. The results are then reported to the Maryland Department Environment (MDE). In the Edgewood Area, we monitor for the contaminant groups listed in Table 1 using EPA-approved methods.

Table 1 also lists the monitoring frequencies for these contaminant groups.

TABLE 1 – Analyte Groups and Monitoring Frequency Table

CONTAMINANT GROUP	MONITORING FREQUENCY
Inorganic Contaminants (IOC)	Annually
Lead and Copper (L&C)	Triennially (Once Every 3 Years)
Microorganisms and Turbidity (M&T)	Daily
Radionuclides (RAD)	Once Every 4 Years
Synthetic Organic Compounds (SOC)	Semiannually (Twice Per Year)
Total Coliform (TC)	Monthly
Unregulated Contaminants (UNREG)	Once Every 5 Years
Volatile Organic Compounds (VOC)	Annually

DEFINITIONS OF KEY TERMS

To gain a better understanding of the content of this report, several key terms must be defined. They are as follows:

Maximum Contaminant Level Goal (MCLG) - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. Please note that MCLGs are goals and not regulatory limits. Public drinking water systems are not required to meet MCLGs.

Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. Contaminants in drinking water, if detected, must be present in levels below the MCLs in order for the system to be in compliance with state and federal regulations.

Monitoring Waivers - State or EPA permission to discontinue monitoring for a particular contaminant or contaminant group. Often, the state or EPA will grant monitoring waivers for systems that have consistently met regulatory limits. In the Edgewood Area, MDE has granted monitoring waivers for cyanide, nitrite, and asbestos, because the system has consistently exhibited concentrations well below regulatory MCLs.

In addition to monitoring for contaminants regulated by MCLs, our water system analyzes for contaminants (including lead and copper) governed by action levels (ALs) and those (such as turbidity) subject to treatment techniques. Therefore, the following definitions of these terms are provided below.

Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

Turbidity – A measurement of the “cloudiness” of water.

ADDITIONAL ACRONYMS/TERMS USED IN THIS REPORT

Below is a listing of additional acronyms and terms (with explanations) used in this Consumer Confidence Report:

TABLE 2 – Contaminants Detected in Van Bibber Water During Calendar Year 2002

CONTAMINANT (GROUP)	LEVEL DETECTED	MCL	RANGE	EXCEEDED STANDARD?	MCLG*	LIKELY SOURCE(S) OF CONTAMINANT
Barium (IOC)	0.022 ppm	2 ppm	NA	NO	2 ppm	Erosion of natural deposits.
Fluoride (IOC)	0.9 ppm	4 ppm	NA	NO	4 ppm	Erosion of natural deposits, Water additive, which promotes strong teeth.
Nitrate (IOC)	1.9 ppm	10 ppm	NA	NO	10 ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Copper (L&C)	207 ppb (90th percentile value from the most recent round of sampling)	1300 ppb (AL)	1 (# of sites that exceeded action level)	NO	1300 ppb (AL)	Corrosion of household plumbing systems; Erosion of natural deposits.
Turbidity (M&T)	0.2 NTU (highest level detected in any single measurement)	At least 95% of monthly samples must be \leq 0.5 NTU (TT)	100% (lowest monthly percentage of samples meeting the limit)	NO	NA	Soil runoff.
Total Coliform (% of positive samples)	0%	<5%	0%	NO	0%	Naturally present in the environment.
Gross Alpha (RAD)	2 pCi/L	15 pCi/L	NA	NO	0 pCi/L	Erosion of natural deposits.
Ethylene dibromide (SOC)	0.01 ppb	0.05 ppb	NA	NO	0 ppb	Discharge from petroleum refineries.
Nickel (UNREG)	0.05 ppb	NA	NA	NA	NA	Erosion of natural deposits.
TTHMs (VOC)	78 ppb	80 ppb (effective 2004)	27-78 ppb	NA	NA	By-product of drinking water chlorination.
HAA5 (VOC)	54 ppb	60 ppb (effective 2004)	22-54 ppb	NA	NA	By-product of drinking water disinfection.
Chlorine	2.6 ppm	4 ppm	0.4 – 2.6 ppm	NO	4 ppm	Water additive to control microbes. Average was 1.8.

NA = not applicable

* Note that MCLG refers to a goal, not a regulatory limit. Contaminants detected must meet MCLs, ALs, or TTs, not MCLGs.

TABLE 3 – Contaminants Detected in the Harford County Water used by the Edgewood Area During June through November of Calendar Year 2002

Unregulated Contaminants	Avg.	Low	High	Typical Source
Bromodichloromethane	7 ppb	ND	19 ppb	By-product of drinking water chlorination.
Chloroethane	0.1 ppb	ND	0.6 ppb	Used in leaded gasoline, production of dyes, solvents and refrigerants.
Chloromethane	0.9 ppb	ND	5.1 ppb	Some produced by industry, but most from natural sources. Also given off by burning materials like grass, wood, charcoal and plastics.
Chloroform	25 ppb	ND	76 ppb	Industrial discharges; sanitary landfills; illegal discharges; by-product of drinking water chlorination.
Dibromochloro-methane	1 ppb	ND	5 ppb	By-product of drinking water chlorination.
Nickel	3 ppb	ND	6 ppb	Erosion of natural deposits, alloys, batteries.
Phenol	1.3 ppb	ND	5 ppb	used in manufacture of nylon and other synthetic fibers.
Sodium	40 ppm	23 ppm	326 ppm	Erosion of natural deposits; leaching; water treatment, Bay water intruding into Susquehanna during drought.

Contaminants	Action Level	Ninetieth Percentile	Samples Above The Action Level	Violation	Typical Source
Copper	1.3 ppm	0.2 ppm	0	NO	Corrosion of household plumbing systems, erosion of natural deposits; leaching from wood preservatives.
Lead	15 ppb	2 ppb	0	NO	Corrosion of household plumbing systems; erosion of natural deposits.

Contaminants	MCLG	MCL	Your Water CL	Range	Violation	Typical Source
Chlorine (as CL ₂)	4 ppm	4 ppm	1.8 ppm	0.3 - 4 ppm	NO	Water additive to control microbes. Average was 1.5.
HAA5 (Total Haloacetic Acid)	NA	60 ppb	44 ppb	N/A	NO	By-Product of drinking water chlorination.
TTHMs For 2001 & 2002	0 ppb	80 ppb	52 ppb	N/A	NO	By-Product of drinking water chlorination.
Barium (IOC)	2 ppm	2 ppm	0.1 ppm	0.03 - 0.1 ppm	NO	Discharge of drilling waste and metal refineries; erosion of natural deposits.
Beryllium (IOC)	4 ppm	4 ppm	0.8 ppm	ND - 3 ppm	NO	Discharge from metal refineries, coal-burning factories, electrical, aerospace, and defense industries.
Fluoride (IOC)	4 ppm	4 ppm	1 ppm	0.3 - 1.8 ppm	NO	Erosion of natural deposits; water additive; discharge from fertilizer and aluminum factories. Average was 0.8.
Nitrate (IOC)	10 ppm	10 ppm	6 ppm	ND - 6 ppm	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Selenium (IOC)	50 ppm	50 ppm	1.5 ppm	ND - 3 ppm	NO	Discharge from petroleum and metal refineries, and mines; Erosion of natural deposits.
Cryptosporidium*	0	TT	0	NA	NO	Human and animal fecal wastes.
Giardia lamblia*	0	TT	0	NA	NO	Human and animal fecal wastes.
Total Coliform (% of positive samples)	0%	<5%	0%	NA	NO	Naturally present in the environment.
Turbidity (NTU) (TT) (<=0.5 NTU in 95% of samples a month)	NA	1.0	0.046	0.018 - 0.3	NO	Soil runoff.
1,2-Dichloroethane	0 ppb	5 ppb	1.9 ppb	ND - 1.9 ppb	NO	Discharge from industrial chemical factories.
Dalpon	400 ppb	400 ppb	0.9 ppb	0.5 - 3.6 ppb	NO	Runoff from Herbicide used on right of ways.
Di (2-ethylhexyl) phthalate	0 ppb	6 ppb	3.6 ppb	ND - 3.6 ppb	NO	Discharge from rubber and chemical factories.
Dichloromethane	0 ppb	5 ppb	0.2 ppb	0.0-0.7 ppb	NO	Discharge from pharmaceutical and chemical factories.
Radioactive - Gross Alpha	0 pCi/L	15 pCi/L	3 pCi/L	0-3 pCi/L	NO	Erosion of natural deposits.
Radioactive - Gross Beta	0 pCi/L	50 pCi/L	3 pCi/L	3 pCi/L	NO	Decay of natural and man-made deposits

*In 2002, one sample of untreated water, from the Susquehanna River, showed the presence of cryptosporidium and Giardia lamblia. None were found in the treated drinking water.

We routinely monitor for a number of contaminants in the water supply to meet regulatory drinking water compliance requirements. The table lists only those contaminants that had some level of detection. Many other contaminants have been analyzed for also, but were not detected in the Edgewood Area drinking water distribution system. **Note that none of the contaminants detected were present in levels greater than drinking water regulatory MCLs, ALs, or TTs.**

EPA and the Maryland Department of the Environment (MDE) require various reporting methodologies for different contaminants. A brief explanation of our reporting methodologies for the detected contaminants is provided:

Barium, chromium, fluoride, mercury, and nitrate are regulated under the inorganic contaminants (IOC) group. *Gross alpha* is regulated under the radionuclides (RAD) group. *EDB* is a synthetic organic contaminants (SOC). *Nickel* is included in the unregulated contaminants (UNREG) group. CCR reporting regulations for all of these contaminants require us to report the highest detected concentration in the "Level Detected" column of Tables 2 and 3 and the range of detected levels in the "Range" column, if applicable.

The Edgewood Area water system services less than 10,000 consumers. Therefore, in accordance with federal and state drinking water regulations, it is not required to meet the *TTHMs* requirements under the disinfection by-products (DBP) rule. However, because TTHMs are also volatile organic contaminants (VOC), any TTHMs detected during annual Edgewood Area VOC monitoring must be reported in the "Level Detected" column of Table 2. Note that there is no MCL for TTHMs under the VOC group.

Copper is regulated under the lead and copper (L&C) group. CCR reporting regulations for the L&C group require us to report the 90th percentile value of the most recent round of sampling in the "Level Detected" column of Table 2. In the Edgewood Area, a minimum of twenty (20) sites are required by EPA and MDE to be sampled for lead and copper during each sampling round. During the last round of sampling, we sampled twenty-seven (27) sites within the Edgewood Area drinking water distribution system. The 90th percentile value represents the concentration of copper that ninety (90) percent of the sites (not values) were below. CCR regulations also require that the number of individual sites exceeding the action level be reported in the "Range" column of Table 2.

Turbidity is a measurement of the “cloudiness” of water. It is monitored because it is a good indicator of the effectiveness of our filtration system, which is a treatment technique for the removal of turbidity. High turbidity can also hinder the effectiveness of disinfectants. At least 95% of the turbidity measurements each month must be less than or equal to 0.5 NTU for our system to be in compliance with the regulatory treatment technique requirements. CCR reporting regulations require that we list the highest single turbidity reading obtained in the “Level Detected” column of Tables 2 and 3. We are also required to report the lowest monthly percentage of samples meeting the turbidity limit in the column marked “Range”.

Total coliform is monitored to ensure that the treatment system is performing properly and that the drinking water we supply is free of microbial contamination. At least 95% of the samples each month must test negative for the presence of total coliform for our system to be in compliance with the regulatory treatment technique requirements. In accordance with CCR Regulations, the highest monthly number of samples testing positive for the presence of coliform must be reported in the “Level Detected” column of the reporting tables. We also report the lowest monthly percentage of samples meeting the treatment technique in the column marked “Range”.